

ELECTRIC REFRIGERATION NEWS

The business newspaper of the electric refrigeration industry

Vol. I. No. 15

DETROIT, MICHIGAN, APRIL 27, 1927

PRICE FIVE CENTS

DETROIT ENGINEERS DISCUSS ELECTRIC REFRIGERATION

Household Refrigeration Leading Topic at Second Meeting of Detroit A. S. R. E.

Household refrigeration was the topic of discussion at the second regular meeting of the Detroit Section of the American Society of Refrigerating Engineers, held April 18, at the Detroit Engineering Society, 478 Alexandrine St., Detroit. The members met at dinner and the program of talks and papers on household electric refrigeration was held afterward.

L. A. Phillip, of the engineering research department of the University of Michigan, read an interesting paper entitled "Theoretical Household Refrigeration," in which he explained a new method used by the University of Michigan in determining capacity of household machines by the use of a B. T. U. test box.

F. R. Erbach, assistant chief engineer of the Kelvinator Corporation, illustrated his talk on "Liquid Control" by means of stereopticon slides, explaining the various expansion valves now in general use.

"Standardization" was the subject of the talk made by Roger K. Braun, sales service engineer of the Kelvinator Corporation. Mr. Braun announced that a committee had been appointed from the membership of the Detroit section, and their recommendations for a standardization of 12 parts on each of the household electric refrigeration machines would be explained at the next meeting, which will be held in June.

The 100 members present were greatly entertained by a talk on "Hunting Big Game in Africa," illustrated by motion pictures. This feature was presented by Col. Sydney G. Waldon, formerly of the engineering department of the Packard Motor Company and now chairman of the Detroit Rapid Transit Commission. The pictures and talk dealt with the hunting trip made by Col. Waldon about a year ago.

AMERICAN RADIATOR MAKES APPOINTMENTS

The American Radiator Company announces the following changes in the sales personnel of the industrial division:

Walter A. Metcalf, formerly with the York Manufacturing Company of York, Pa., and later with the Shipley Construction Company of Brooklyn, will cover the New England states, New York and New Jersey in the sale of products to the refrigeration industry. He will make his headquarters at the American Radiator Company, 40 West Fortieth St., New York City.

R. E. Townsend, who was recently with Pratt-Lambert Company of Buffalo, will cover the same trade in western New York, Pennsylvania and Maryland, with headquarters at the American Radiator Company branch at 1807 Elmwood Ave., Buffalo, N. Y.

Paul S. Hospe, who was branch manager for the Baker Ice Machine Company at Kansas City, will devote his time to the refrigeration industry in the Central states west of the Mississippi River, with headquarters at the American Radiator Company, 906 Davidson Building, Kansas City, Missouri.

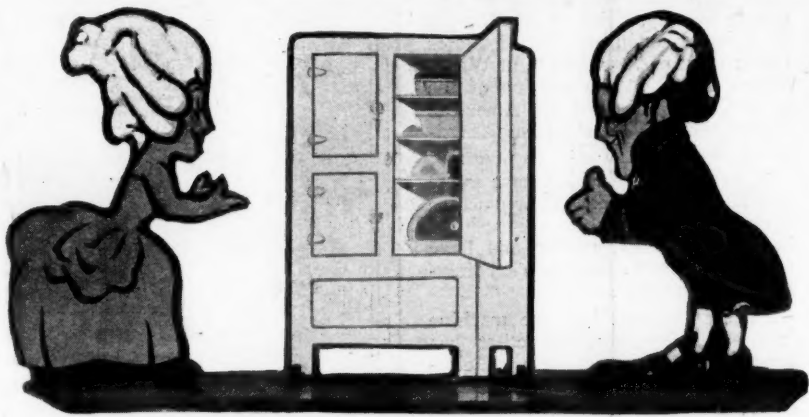
E. J. O'Connell will be stationed at the American Radiator Company office in the Quinby Building, Los Angeles, and will handle both domestic and commercial refrigeration on the Pacific Coast.

Correction in Personnel Directory

In a recent issue of ELECTRIC REFRIGERATION NEWS, the names of Ford Ballantyne, A. H. Meinke, and A. Deb Gaines were added to the list of Superior Iceless Refrigerator, Inc., executives in error. This information was given under the caption "directory changes" and the three persons mentioned are members of the Universal Cooler Corporation, Detroit. The correct listing of the Universal Cooler executives is as follows: Patterson Farmer, president; Ford Ballantyne, vice-president; Albert H. Meinke, secretary-treasurer; C. E. Curtis, production manager; Harry Thompson, chief engineer; A. Deb Gaines, sales manager; H. R. Christensen, advertising manager.

An Outstanding Sales Feature
for REFRIGERATORS

AIRTITE
CUSHION
GASKET



Impressive Exhibit Arranged by New York Edison Company



Thirteen different makes of electric refrigerators were shown at the recent exhibition of the New York Edison Company, held in the show rooms at 15th Street and Irving Place. No sales are made by the company, but visitors are referred to the nearest dealer in their neighborhood.



High ceilings, wide aisles, ample light by day and night characterize the New York Edison show rooms.

New York Copeland Distributor Co-operates With Annual Poppy Drive of American Legion

Copeland Refrigerator Company of New York, Incorporated, 50 East 46th Street, New York City, announces to all members of the American Legion in New York City its endorsement of the annual poppy drive on behalf of the disabled veterans of the World War, and states that through

the co-operation of Walter E. Frew, president of the Corn Exchange Bank, a Copeland electric refrigerator will become the property of the member of the Legion or Auxiliary making the greatest cash return from the sale of poppies during the week of the drive.

ELECTRICAL GIFTS FOR THE BRIDE

Electrical retailers desirous of making a special effort to sell more electrical things as bridal and fourth (electrical) wedding anniversary gifts will be interested in material which The Society for Electrical Development has available to aid them in preparing window displays.

This material consists of life-size bridal figure, lithographed in five colors, with easel back; a smaller window display panel, 21 1/2" x 31" in ten colors; special newspaper advertisements and feature stories for use in local newspapers. The design of the smaller panel is also available in poster form suitable for hanging in windows; also in plain sheet form for framing. The slogan "Give Her An Electrical Gift" appears on each piece. For prices and other information apply to the Society direct at 522 Fifth Avenue, New York.

Durban Addresses N. E. L. A. Division Convention in Memphis

G. E. Durban, public utility representative of the Frigidaire Corporation, Dayton, Ohio, addressed the general session of the southeastern division convention of the National Electric Light Association, held at Memphis, Tenn., April 13-15, on the subject of "Electric Refrigeration."

Wells Resigns From Rice Products

T. E. Carpenter, vice-president and general manager of Rice Products, Inc., 100 East 42nd Street, New York, announced the resignation of T. B. Wells as sales manager. Jas. H. Frazier has been appointed, in addition to his present duties as advertising manager and sales promotion manager, sales manager in full charge of all matters pertaining to sales or sales promotion.

2500 Attend Frigidaire Annual Sales Convention in Dayton

**Leading General Motors Executives Present—
Predict \$100,000,000 Plant Investment
Within Next Two Years**

The annual two-day sales convention of the Frigidaire Corporation and Delco Light Company held at Dayton, Ohio, April 13-14 was the greatest ever held by these units of the General Motors Corporation. In attendance, important announcements and enthusiasm created it was memorable. More than 2,500 dealers and salesmen were in attendance and the convention was attended by all of the leading officials of the General Motors Corporation, among whom were: Pierre S. DuPont, chairman of the executive board; Alfred S. Sloan, Jr., president of the corporation; E. G. Biechler, president and general manager of the Frigidaire Corporation and the Delco Light Company; C. F. Kettering, vice-president of General Motors Corporation; C. S. Pratt, vice-president, General Motors Corporation.

Scheu Appointed Chicago Branch Manager of Nizer

R. J. Scheu, who has been connected with the Nizer Division of Electric Refrigeration Corp. for more than a year, has been promoted to the position of Chicago branch manager. Prior to his world war experience, Mr. Scheu was connected with the Burge Machine Works, who handle the Baker Ice Machine, in the capacity of erecting engineer. After the war he joined the Creamery Package Co. as erecting engineer, and later became estimator and sales engineer.

Frigidaire production will go on a basis of 50,000 per month beginning May 1, E. G. Biechler told the convention when it opened Wednesday, April 13. The company now employs 3,000 more men than it did last year. There are 4,000 more men in the field today than one year ago, he stated.

In 1925, he stated, sales totaled \$40,000,000. Last year the sales were multiplied by two, or approximately \$82,000,000. The Frigidaire president praised the work of the assembled dealers and distributors, saying that the unit sales on commercial and household business in January was doubled, and that the same gain was made in February.

"We figured we needed 30,000 orders in March to keep up the gait," he told them. "And what did you do? You broke all records by turning 38,500 orders for March." He referred to the fact the convention was known as the "half-million dollar" convention, that being the cost of it.

Nearly \$50,000 in gold was passed out the first day of the convention in \$100 cash prizes to the members of the Kilowatt and B. T. U. clubs of the Frigidaire sales organization. The new model Frigidaire was introduced to the salesmen at this time.

Prospects are bright that within another year or two the General Motors Corporation will have \$100,000,000 invested in the electrical refrigerator business in Dayton, Alfred P. Sloan, Jr., president of the organization, stated Thursday morning, the second day of the convention.

"This would approximately double the present investment of the company, estimated at approximately \$50,000,000, and call for extensive building improvements and the addition of many more men to the present large force," he stated. "Judging from the enthusiasm displayed by the 2,500 dealers and salesmen who have listened to the sales talks and demonstrations at the convention, I am satisfied that the biggest development is ahead of us," continued Mr. Sloan.

Third in General Motors Sales

"In the past five years," he said, "Frigidaire Corporation has grown from one of the smallest of General Motors divisions to third place in volume of annual sales, being exceeded by only two of the automobile divisions, Buick and Chevrolet. The Frigidaire unit production, which will approach 50,000 a month in May, exceeds, with the exception of Chevrolet, the number of units produced monthly by any car manufacturing division.

"Some idea of what has been accomplished in this direction may be visualized by comparing our lowest priced Frigidaire, which now sells for \$195, and the price of \$750, which represented the cheapest unit manufactured five years ago."

In the General Motors party with Mr. Sloan, Thursday, in attendance at the convention, all of whom were present at the banquet Thursday night, were Pierre S. du Pont, chairman of the board of directors; Charles S. Mott, vice-president and director; Donaldson Brown, vice-president in charge of finance; John L. Pratt, vice-president in charge of the accessories group; Lawrence P. Fisher, vice-president and director and president of Cadillac Motor Car Company; Charles T. Fisher, vice-president and director, and president of the Fisher Body Corporation; L. R. Beardslee, secretary of the executive committee; C. C. Cooper, president of General Motors Acceptance Corporation; A. L. Deane and J. J. Schumann, Jr., vice-presidents of G. M. A. C.; Wade H. Leach, assistant to the president; B. G. Koether, director of sales section; Verne Burnett, secretary advertising committee; C. W. Churchill, general sales manager of Buick Motor Car Company; H. M. Stephens, general sales manager of Cadillac Motor Car Corporation; W. E. Fellows, advertising manager, and W. M. Chamberlain, sales promotion manager of Oakland Motor Car Company; C. P. Walker and Myles Bradley, of General Motors publicity department.

Biechler Recounts Frigidaire Growth
Recounting the growth of the corporation in connection with announcement of (Continued on Page 7, Column 2)

CALKINS GOES WITH JEWETT REFRIGERATOR

R. C. Calkins, who until recently was works engineer of Copeland Products, Inc., Detroit, has accepted a similar position with The Jewett Refrigerator Co., at Buffalo. Mr. Calkins has had extensive experience in plant layout and production engineering, having had charge of such work since 1918 with such firms as Firestone Tire and Rubber Co., Willys-Overland Co. and the Chrysler Corp. After graduating from Carnegie Tech he was with the Westinghouse Co. for six years until the war, when he went with the Government as an engineer with the Ordnance Department.

The Jewett Co. is making no announcement as yet concerning their future policies other than the fact that they have already accepted a large order for metal-clad, self-contained cabinets from one of the leading electric refrigerator manufacturers, and expect soon to be geared up on a quantity production basis to handle similar contracts from other firms. They will continue to manufacture cabinets with solid porcelain linings.

COPELAND DEALERS MEET IN MILWAUKEE

Copeland dealers and salesmen, representing a dozen Wisconsin and Michigan cities, attended the first annual district sales meeting at the Hotel Pfister, Milwaukee, Wis., recently.

W. D. McElhinny, Detroit, vice-president in charge of sales, conducted the meeting. Arrangements were in charge of J. D. Sutherland, district sales manager for Wisconsin. Reports showed that a large increase in sales had been recorded during the past year in the Wisconsin and Michigan territories and that prospects for the immediate future were exceedingly bright.

Tubing for condensers

Smooth. No possibility of scale. Up to 100 foot lengths. Formed to your order.
1431 Central Ave., Detroit, Mich.

WOLVERINE
SEAMLESS COPPER AND BRASS TUBING

Accord Mother's Day a Timely Electric Refrigeration Display

Second Sunday in May, an Event of National Interest, Offers Opportunity to Suggest Ideal Gift

By Ernest A. Dench

Timely events are a source of secret joy to one electric refrigerator agent we know. He admits they don't materially increase business, but they deviate from every day selling methods, and are refreshing to tackle because of this fact. His show window presents a somewhat different appearance, with the gift angle foremost. He also gets new facts into the store—desirable prospects to follow up by mail, telephone and in person. Mother's Day is made much of by florists and confectioners, and the gift tendency is rapidly spreading to other trades. The electric refrigerator is an article which any mother would be glad to possess in her home.

Whistler's "Mother" the "Star" Prop

Human interest—another interpretation of the sentimental appeal—is the main ingredient of the Mother's Day display. It is fast becoming associated with a symbol—a home scene and the absent son or daughter—just as Easter is identified with chicks and rabbits. We would like to collect a royalty of \$1.00 apiece on every picture of Whistler's "Mother," which figures in a predominating number of Mother's Day trims by all kinds of stores from coast to coast. We could well retire on the proceeds.

The electric refrigerator retailer who has had no previous experience with Mother's Day, which occurs the second Sunday in May, will want to absorb all the atmosphere of the occasion. He will be more than repaid for the time spent in following this little article to the last line.

Clean-Cut Presentation of Home Environment

Masterly handling of a small show window is shown in the adjoining view of a Seattle store. The home environment was ingeniously reproduced against the limited background by a dummy window frame, as seen from the outside of a simple dwelling. The shingle border constructed around the window panes was given a brick foundation at the base. Below the house window, the glass of which was marked off in squares, rested a green painted window box full of growing tulips in full bloom. This box rested on brackets. Shades were drawn down about half-way inside the window, and below these a glimpse of crisp, ruffled curtains was to be had. But the focus point at this location was the middle-aged woman (wax figure) with gray hair, quietly dressed, who sat in a rocker beside the window (inside it).

The Calendar Reminder

Using strictly home furnishings for the main "props" another store emphasized the approach of Mother's Day. The highlight of the living room setting was a personal writing desk arranged with all the materials for writing—complete to a bunch of received mail in one of the pigeonholes. Electric refrigerator literature was also in evidence. Topping the desk was a large memorandum calendar, open during the week preceding Mother's Day. The blank space on the page was captioned with—"My dear Son: Just like your thoughtful self to ask what gift I would prefer. My first choice is electric refrigeration. Lovingly, Mother."



Glorify the Old-Fashioned Mother

When a store wishes to eulogize Mother, the old-fashioned "type" is picked. The stage "mother" we all know, but the dyed-in-the-wool mother fights shy of "personal appearances" in show windows, as a rule. It would be a decided feather in the cap of a retailer if he could secure a desirable woman to inhabit his old-fashioned setting, and make it livable. You can imagine the amount of attention it would receive.

That it is not an impossibility was proven last year by the C. C. Store, Vancouver, Washington. Sons and daughters fighting life's battle away from home found the years drop from their shoulders as they stood before the show window, converted in a simply furnished home of a decade or two ago. The illusion of reality was there in the person of Mrs. Julia Huth, a popular Vancouver mother, who, during the busy hours of the day, took up her quarters in a comfortable rocker, and busied herself on some embroidery work. Now and then Mrs. Huth would look up, and, recognizing a friend or acquaintance, smile a cordial greeting.

There is, too, the modern mother who is the living image of her flapperish daughter. But one cannot do much sentimentalizing about her, even though she may have as many good qualities as her old-fashioned counterpart. She just doesn't fit in with the Mother's Day "picture."

HOME ECONOMICS CHIEF DEPLORES UNETHICAL COMPETITION

Extracts from the address of Dr. Louise Stanley, chief of the Bureau of Home Economics, United States Department of Agriculture at Washington, D. C., at the meeting of the New York Section of the American Association of Refrigerating Engineers, March 30, 1927:

"The statements which some salesmen have used to boost their machine over that of their competitors' have been unfair, untrue and have tended to reflect upon electric refrigeration in general.

"The statement that one machine is more noisy than the other has tended to associate noise with electrical refrigeration.

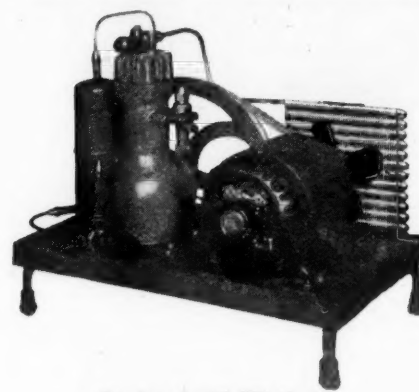
"The attacks which some salesmen have made on the type of refrigerant used by the other fellow, have given an opportunity for the ice people to fan into active flame the idea that a refrigerant in the ice box, even though confined, may in some way poison the food.

"The whole conflict, and particularly the continual advertising of a new refrigerator, better than any other on the market, is raising in the minds of the buying public the idea that the whole field is still in an experimental stage and that 'we had better wait.'

"What is needed most is that all the refrigerator people work together to show the value of refrigeration in the home, and get over the point of view that there are many different kinds adapted to the varying conditions."

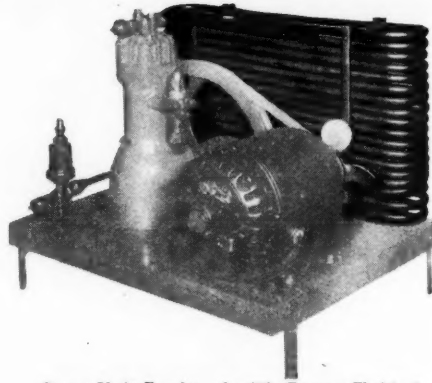
FLINTLOCK CONDENSERS

EFFICIENT—ECONOMICAL—COMPACT



Equipped with Flintlock

"UNIVERSAL COOLER" has standardized on Flintlock condensers. The new unit equipped with Flintlock and the old unit is illustrated herewith.



Same Unit Equipped with Copper Tubing

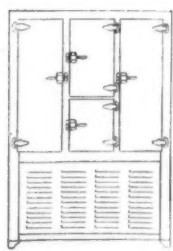
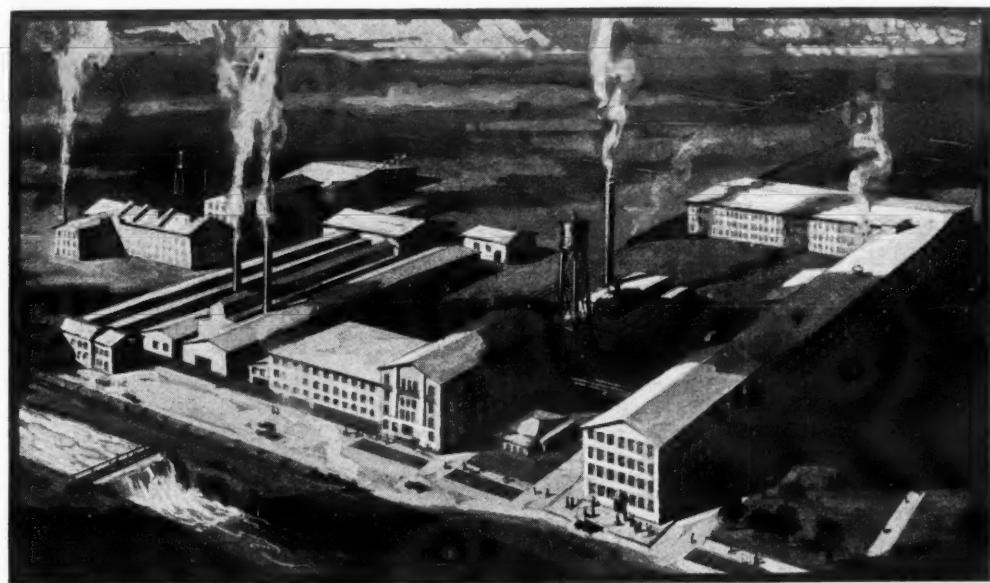
An interesting and important book on the application of the Flintlock Condenser to the Refrigeration Industry is now available and will be mailed on request to manufacturers, distributors and dealers.

WRITE FOR YOUR COPY TODAY

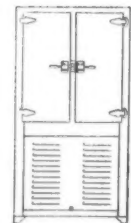
FLINTLOCK CORPORATION

4461 W. Jefferson Ave.

Detroit, U. S. A.



Rex's well known engineering ability , , , plus Rex's unusual plant capacity , , , assure an excellent introduction for the new Rex steel cabinet for electrical refrigeration



"WILDER METAL"

Sheets For Electric Refrigeration Construction
Permanence Against Corrosion
at a Minimum Expenditure

Obtain Samples

WILDER METAL CO.

NILES, OHIO

REFRIGERATION STAMPINGS

We Specialize in the Design and Manufacture of

ICE CREAM CABINETS

We make them complete or furnish parts separately

Brine Tanks Cooling Units

Unit Supporting Bases and Perforated Metal Covers

METAL HOUSEHOLD REFRIGERATORS (Complete) OR CAN FURNISH

OUTSIDE STEEL PANELS, INSIDE LININGS, LOUVERED PANELS, LEGS, ETC., SEPARATELY

We Have a Competent Engineering Staff to Help You We Solicit Your Inquiries and Specifications

MOTORS METAL MFG. CO. - DETROIT MICHIGAN



FINE STEEL CABINETS FOR ELECTRICAL REFRIGERATION

Electric Refrigeration Leading a "Back to the Farm" Movement

Trip Through Texas Ranch Sections Shows Progressive Farmer Needs Electric Utilities More Than City Residents

By Albert H. Meinke
Treasurer Universal Cooler Corporation, Detroit

"One trip through the ranch sections of Texas, will convince anyone seeking definite first-hand merchandising information, that no group of buyers has more quickly sensed the advantages of electric refrigeration than the progressive American farmer.

"The extension of feed lines to the great farming areas and the installation of farm electric lighting plants has brought to the farm home all the numerous time and labor saving devices, found years ago in city homes exclusively. Indeed, there is little today in the way of modern improvements which are not found in thousands of rural homes where the drudgery of former years has been displaced by the varied equipment that makes home-keeping a matter which can be controlled by the turn of a switch.

"Those very attractions which brought the youth of the country to the city are now calling the same youth back to the farm—the electrical switch has been thrown the other way. Many farm homes are more fully electrified than many city homes. The days of the kerosene lamp, the broom and back-breaking wash tub have been relegated into the discard by the farm wife. Electricity and improved highways have made the farm home a suburban dwelling.

"One farmer we interviewed, explained in great detail the many ways in which electricity has become the master workman on his farm. To him, electric service was far more important than to any home owner in the city. He used electricity for all the purposes to which we apply it in the city, and besides used it to pump water, operate a tool sharpener, run a milking machine, and to charge batteries for his car and radio set. Fully appropriated, it was easy to see that the progressive American farmer has many times the use for electricity that we city folks have.

"But no electrical utility has been received with greater approval by the farm wife than electrical refrigeration. The proper cooling of food has long been one of the farmer's major problems. In many cases he was located in zones where ice was not available, either from the lack of water or the year around absence of low temperature. And in the warmer sections, where the demand for refrigeration was the keenest, ice was most difficult to procure.

"Being some distance from a retail market, the farmer, when he did come to town, indulged in large scale buying of food stuffs, other than home grown. In many cases this food would spoil or lose its nutritive value because of the absence of adequate refrigeration. Failure to possess means for properly keeping food has vexed farm housekeepers for many years. The coming of dependable electric refrigeration has eliminated this problem. Especially in the dairy sections has electric refrigeration found a lively demand—where milk products must be stored and kept for days.

"Most of the larger rural dairies either have refrigeration plants or are planning installations. And it is better and safer for the city consumer that these improved methods are being adopted.

"Experience has proved that the electric refrigerator fills a great economic need. This need is intensified in the farm home where ice delivery service is not available except at a prohibitive cost. Wherever farm folk gather, the subject of electric refrigeration never fails to strike a responsive cord, indicative of the fact that the American farmer is a few steps ahead of his city cousin when it comes to the adop-

tion of time, labor and food saving appliances.

"In talking to rural bankers, it is found that they are not only sold on electric refrigeration for themselves, but are enthusiastic boosters for its application in the farm home. The farmer worthy of credit extension can get liberal accommodation from his banker when it comes to the purchase of an electric refrigerator.

DEALER WANTS ADVICE ON TURN-IN PROBLEM

Should Allowance Be Made and What Should Be Done With Old Cabinet

A. T. Southand, Peekskill, N. Y., sends in the following inquiry:

"What is being done by salesmen and dealers of electric refrigeration in handling the 'turn in' problem?

"There are many people who have a 'perfectly good refrigerator,' 'a new refrigerator,' 'an expensive refrigerator'—from their standpoint—which they hesitate to scrap; but which is not satisfactory for installation from the refrigeration standpoint.

"Are these sales being lost? Are installations being made that will cause expensive refrigeration with the resulting sales resistance among friends and neighbors? Or are the sales being made by making a fair allowance for the old refrigerator? If so, how are the turn-ins being disposed of?

"A request for information on this subject in your columns should bring out some valuable information."

ELECTRIC REFRIGERATION NEWS will be pleased to publish views and experiences of other dealers.

This is no idle boast:

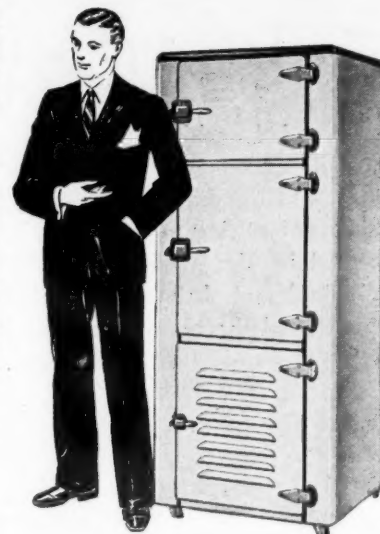
—"Crysteel All-Porcelain Refrigerating Cabinets help good units give better service"—

SOME say that a unit is only as good as the cabinet. We don't claim that much, but dealers tell us that most complaints on the inefficiency of the unit should be charged to the box.

So Crysteel engineers built a cabinet to help the refrigeration system give maximum service. One dealer who had been suffering from service troubles installed Crysteel Cabinets in the homes where complaints were most insistent. In every instance there was a noticeable let up of complaints and the Crysteel Cabinets showed a definite saving of as much as 25% in operation costs.

The exclusive Crysteel franchise is available to dealers in open territory. No dealer who is interested in the future of electric refrigeration will fail to investigate.

BENJAMIN ELECTRIC
MANUFACTURING COMPANY
120 S. Sangamon St., Chicago

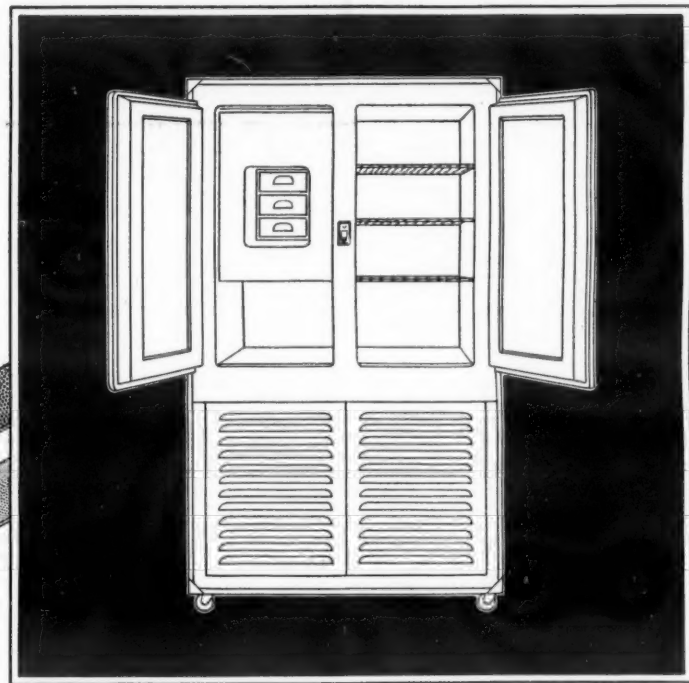


BENJAMIN
Crysteel

All Porcelain Cabinets

CRYSTEEL CABINETS DID NOT JUST HAPPEN, THEY ARE MADE THAT WAY

America's Best Known Refrigerator Cabinets are Made of these Special Sheets ~



1-Super-Metal
2-Galvannealed

COSTLY experience has shown that the sheet metal of a refrigerator cabinet must have very special qualities. As a result, America's best known cabinets are now being built either of Super-Metal or Superior Galvannealed.

Offers 2 Grades of Choice

Manufactured by one organization long recognized for the quality of its production, the characteristics of these two sheets are so similar that they may be considered as two grades of the same cabinet material. Superior Galvannealed, while second to Super-Metal in some features, has met the strictest standards of leading makers of electrical refrigerating systems.

Super-Metal is made from a special analysis copper content metal and coated with a special mixture of alloys which amalgamate with the sheet. The most

severe operations will not fracture this coat and its highly "polished" finish offers a matchless surface for lacquer and other finishes of the finest grade.

A Coating That Won't Break

Superior Galvannealed can be furnished in open hearth or copper content steel coated with prime spelter and alloys of other metals. Like Super-Metal, it withstands the most difficult operations without fracture or peeling of the coat and easily solders and welds. Enamels and lacquers adhere readily.

We invite the inquiry of any manufacturer interested in improving the finish and rust resisting qualities of his cabinets.

Clip this coupon to your letterhead and mail!

The Superior Sheet Steel Co.
Canton, Ohio
Kindly send samples and data on your special sheets for refrigeration cabinets.

Name _____
Address _____

The Superior Sheet Steel Company

CANTON, OHIO

Makers of *Lead-sealed* Galvanized and Long-Terne Sheets

Super-Metal
For the Finest Cabinets



Galvannealed
Second only to Super-Metal

Made to Order

A few years ago the largest Electric Refrigerator Manufacturer called for a proposal on an entirely new kind of porcelain enameling plant—a continuous plant, with work progressing from furnace to furnace by use of special conveyors, driers and forks.

FERRO was given the job. We made good. First, three furnaces were ordered and now fifteen furnaces are successfully operating. With this equipment every lining, part and panel, is completely enameled within three hours from the time it is started through the pickling operation.

Let us explain our proposition to you. We would like an opportunity of quoting on enameling equipment and would be very glad to have you consult with us as to whether or not it would be economical for you to operate your own porcelain enameling department.

Write for "Men and Methods"

THE FERRO ENAMEL SUPPLY COMPANY
Cleveland, Ohio

ELECTRIC REFRIGERATION NEWS

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APRIL 27, 1927

Test and Approval of Electric Refrigerators

The whole subject of tests to determine the relative merits of various types and makes of electric appliances is one that has been under consideration for many years. There are numerous complications involved in the problem of setting up an authoritative source of information which will be accepted by the industry and the public. That there is a need for unprejudiced and authoritative information is indicated by the frequency of requests and the repeated efforts by various organizations and independent service companies to provide data of this kind.

Anyone may, if he desires, set himself up as a judge of the merits of any line of products, but the acceptance of his judgment by any considerable number of buyers is quite another matter. The consulting engineer, for example, often performs a service of this kind but only for his clients. Any publication is at perfect liberty to provide such a service to its readers. The effectiveness of an effort to provide a comprehensive service to "the public," however, usually requires the active co-operation, or at least the favorable attitude, of the manufacturers whose products are involved.

There is an increasing unwillingness among manufacturers in the electrical industry to submit their products for the approval of self-appointed protectors of the buyer. The large manufacturers are inclined to believe that their own standing and reputation is sufficient guarantee to the public. They question the ability of any private enterprise with less experience and facilities than their own, to determine what is needed in the way of design and performance to secure the desired results. There is a general feeling that only an association representing all interests concerned, or an organization which has itself been approved by these interests, is capable of making any determinations which will be of real value.

The whole subject is of extreme importance to the electric refrigeration industry and a careful reading of the viewpoints expressed in the discussion which appears on this page will be well worth while. There will undoubtedly be considerable further discussion of this subject and it will be well for everyone concerned to be fully informed regarding the various elements involved in the problem.

Electric Refrigeration Facts for Beginners

Many favorable comments have been received regarding the articles by C. B. Ryan, Jr., and J. F. Hendrickson, particularly the one in the last issue entitled "Causes of Food Spoilage." Requests have been received for reprints in pamphlet form for general distribution. Arrangements will be made to meet this demand. The third article in the series entitled "Fundamental Principles of Electric Refrigeration Explained," will appear in the issue of May 11. In it will be given a condensed review of the physical laws upon which are based the design and operation of all electric refrigeration equipment. Similar information has been furnished in earlier issues of the paper and returns indicate a general interest in this type of material.

In selecting subject matter for the editorial columns some preference has been given to discussions of the fundamentals of electric refrigeration. It has been the aim to lay a foundation—to tell "what it is all about." An effort has been made to edit the paper largely from the viewpoint of the thousands of men and women who are new in the business. The reaction of the industry in the form of letters commenting on the various articles gives proof that the paper is meeting the need. As the industry grows, ELECTRIC REFRIGERATION NEWS will grow with it.

Record of Electric Refrigeration Patents

Four installments of a complete list of all electric refrigeration patents issued up to December 31, 1926, have appeared in previous issues. On account of the lack of space, the fifth installment is omitted from this issue but the series will be continued later until the record is complete. The list of patents directly relating to refrigeration is most impressive. It gives an idea of the tremendous amount of work which has been done in past years and which has made possible the present development. It should also be remembered that thousands of other patents, classified by the Patent Office under other subjects, have a bearing upon the equipment, materials and processes used to produce an electric refrigerator. The simple self-contained machine of today has back of it an amount of study and experimentation which is almost beyond comprehension.

A Directory of Manufacturers

In the issue of February 2 a "directory of the personnel of manufacturers of electrical refrigeration equipment and cabinets was published." It was pointed out that the list was incomplete and that a revised directory would appear later. A questionnaire has been forwarded to every known manufacturer of household and commercial machines, also to manufacturers of cabinets, motors, accessories and materials. Lists of manufacturers compiled by various agencies have been checked and it is believed that this request for data will reach every company actively in the business. The returns from this survey will be published in the May 25 issue.

Popular Science Monthly Presents Plan to Test and Approve Electric Refrigerators

Requests Co-operation of Manufacturers in Carrying Out Research Activity Aimed to Provide Readers With Authoritative Data on Performance of Various Makes

The Popular Science Institute of Standards, which is conducted by *Popular Science Monthly*, a New York publication, has recently addressed communications to the leading manufacturers of electric refrigerators outlining a proposed plan to carry on scientific tests to determine the relative efficiency and operating characteristics of the various makes of equipment so that readers of the magazine may be advised as to which makes come up to, or surpass, the standards set by the institute.

Extracts from the letter addressed to manufacturers, a description of the laboratory equipment and an outline of the proposed tests for electric refrigerators follow:

"In this letter a plan of co-operation is outlined that will aid your business and the industry of which it is a part. You are asked to co-operate in making this plan resultful.

"We have found out what people want to know about electric refrigerators, and we propose to give to the families in the 300,000 homes in which *Popular Science Monthly* is read, not only unbiased authoritative information, but we propose to establish a source for this information which will make possible articles in our magazine having a dramatic and vital news value.

"These are the things that we have found people want to know about electric refrigerators:

1. How much does it cost to operate an electric refrigerator, compared to the use of ice?
2. Can they get ice for ice water and for other purposes when they need it, with an electric refrigerator?
3. Can they get a perfected electric refrigerator that will not get out of order?
4. Will a good electric refrigerator wear out quickly?
5. Those who have had older refrigerators want to know if they all make a noise?
6. They want to know how much it costs for a good electric refrigerator.
7. And they want to know what is the best electric refrigerator made.

"We propose to answer all of these questions, with the exception of the last question, in articles in the pages of *Popular Science Monthly*. We propose to give to people in 300,000 homes accurate, unbiased information in which they are vitally interested. For this purpose instead of using general information which may be available or by using statements from refrigerator manufacturers, we propose, because the information will carry more weight with our readers, to find the answers to all of the questions regarding the worth of electric refrigerators, in the laboratories conducted by the Popular Science Institute of Standards, at the Sage Laboratories of New York University.

"Professor Collins P. Bliss, who is associate dean of the College of Engineering, and Professor Stetson, who is in charge of the course in refrigeration at New York University, will find the answers to the questions regarding worth of electric refrigerators, by means of scientific test and experiment.

"For this purpose we have constructed at the Sage Laboratories a room in which the temperature and humidity can be controlled at will. We have installed machinery and instruments to make all necessary tests.

"The answers to the vital questions which determine the decision to purchase an electric refrigerator will be found by the members of the faculty of New York University, who will make these tests. Further tests will be carried on to provide additional information about proper temperatures for the preservation of food and the proper construction for boxes in which the food is kept.

"Thousands of people will decide to buy an electric refrigerator because of the information given. They will write us and ask us for advice in the selection of the best refrigerator. While naturally we cannot give them the answer to this question, we will establish, as the result of tests, certain standards of—

1. Operating efficiency of individual refrigerators;
2. Mechanical efficiency, wear, etc.;
3. Length of life;
4. Noise;

and refrigerators that come up to or surpass these standards will be recommended to people who ask for advice as to what refrigerator to buy. Each individual will then make his selection from the refrigerators recommended, taking into consideration price, looks, adaptability for individual needs and personal determination of all factors of value.

"What this will do for your business is obvious. It will convince several thousand families of the desirability of owning an efficient electric refrigerator, and if you are making a good refrigerator, of course, many people will buy yours.

"For the electric refrigerator industry as a whole the information published will promote interest in electric refrigeration and stimulate the desire to own an electric refrigerator now. Because of the authoritative character of the information given, the 300,000 families who read *Popular*

Science Monthly will become salesmen to other people of the desirability of electric refrigeration.

"What you are asked to do is to send a representative sample of your electric refrigerator to Professor Collins P. Bliss, New York University, University Heights, New York, N. Y. You will thereby to a slight extent share in the expense of carrying into effect a campaign that will increase your business.

"We have spent something over \$10,000 for construction of instruments and machinery and we will spend in salaries to engineers, in paper and printing in the pages of several million copies of *Popular Science Monthly*, considerable additional money. The cost to you is only the cost of one of your refrigerators, which will be returned to you if desired—possibly worn as a result of tests."

Arrangements at Sage Engineering Laboratories, New York University

"A room has been constructed in the Sage Laboratories, the walls of which are of 6-inch hollow tile lined with cork 6 inches thick to prevent the flow of heat through the walls. The ceiling is constructed of wood on which is another layer of 6-inch cork, 6 inches thick. The floor is made of 5 inches of cork laid on the cement floor of the laboratory. A layer of cement keeps moisture out of the insulation

and is covered with cork tile for a wearing surface.

"Inside the room dimensions are approximately 9 feet by 9 feet, with a ceiling height of slightly over 6 feet. The room has a single door, its only opening, which is a standard cold-storage type of door.

"Around the inside of the wall of the room are coils of pipe in which there is circulated a refrigerant for maintaining sub-atmospheric temperatures. There are also provided electric space heaters. It is possible to maintain temperatures in the room from zero to 120 degrees Fahrenheit.

"Arrangements for measuring temperatures, humidity and electric input to heaters and motors are located on the outside of the room, so that it is unnecessary to enter the room for observations during a test. Both recording and indicating instruments are available. Where accurate measurements are required, thermocouples and potentiometers are employed."

Outline of Proposed Tests for Electric Refrigerators

"It is proposed to make the following tests on electric refrigerators submitted to the staff:

"1. To determine at what room temperature the refrigerator is unable longer to maintain the desired box temperature, providing such a limit exists under a reasonable upper limit of assumed room temperature.

"2. To determine by direct measurement and under conditions in which the losses through the ice box are eliminated, the amount of refrigerating effect produced and the amount of electrical energy supplied by the motor to produce this effect.

"3. To determine for varying room temperatures the ability of the refrigerator to maintain a constant box temperature.

"4. To determine the rapidity with which ice may be frozen in the box and the effects of rapid freezing of ice on the temperature in the box, its constancy and the cost of production.

"5. To determine by a method to be developed and according to an arbitrary scale, the relative noise of the mechanism while operating.

"6. To investigate humidity conditions in the box.

"7. To determine by repeated tests whether or not the automatic and mechanical devices are reasonably fool-proof and reliable."

Manufacturer's Comments on Proposed Laboratory Tests

Engineering Executive Points Out Difficulties of Establishing Specifications Which Will Result in Protection to the Public

Because of the present widespread interest in the problem of setting up reliable specifications and facilities for the testing of electric refrigerators and the importance of a general understanding throughout the industry of the factors affecting an operation of the kind proposed by *Popular Science Monthly*, inquiries have been made by ELECTRIC REFRIGERATION NEWS to determine the views and opinions of executives who have had long experience in the electrical industry and who are familiar with the detailed history of similar movements which have been undertaken in past years.

The following comments represent the personal views of an executive of one of the larger manufacturers of electric refrigerators. His opinion was asked because of his familiarity with these previous movements, but his name has been withheld at his request, as there has as yet been no official action by the company with which he is connected, or by any association of the industry. The views expressed will, however, be helpful in bringing out some of the considerations involved in the plan.

"We have a real appreciation of the spirit in which *Popular Science Monthly* has undertaken the task of making available accurate information on electric refrigeration matters and naturally will be in sympathy with the procedure which seems to promise best from all standpoints. There has been careful consideration given to this very real need and the discussion is actively continuing.

"There is no question of the desirability of an accurate evaluation if it can be secured without too great difficulty and under conditions and from a source sufficiently unbiased and authoritative to insure general acceptance.

"It is immediately evident, however, that there should be but one such source, and that all parties in interest must be in agreement. The cost—both direct and incidental—of reference to a number of sources would be too great to be contemplated. If, as would probably be the fact, the situation were still further complicated by variance in the methods of and specifications for, test, the procedure would result in confusion rather than enlightenment.

"The refrigeration committees of both the National Electric Light Association and the Association of Edison Illuminating Companies have this problem actively under discussion with the major manufacturers. We feel that they may reasonably be said to represent the purchaser interest. The problem is being attacked with three objects in view:

"1. Agreement as to the information essential to a real presentation.

"2. Agreement as to the methods and specifications by which this information may be obtained, and the limits of accuracy required.

"3. The selection of an established testing agency of recognized standing and the determination of the manner of carrying the expense.

"With this state of facts before us, we would naturally prefer to work along the

present lines until the possibilities have been developed, and we believe we should hamper rather than forward progress if we took any other course.

"Purely to indicate the type of questions which arise, and in no sense as criticism of the proposed series of tests, we make the following comment:

"1. There is no real value in determining at what temperature an equipment fails to work, and the cost of accurate determination would be much greater than determining what is its performance under assumed maximum conditions.

"2. This becomes simply an overall efficiency test of the unit and in domestic applications is of comparatively minor importance. Noise and service completely outweigh it.

"3. If the suggested change in (1) were adopted, this would determine simply the relatively shorter operating periods at lower room temperatures. Is there real value in this knowledge?

"4. This is of doubtful value, although, perhaps, of popular interest. The conditions which influence results are many and the particular combination chosen to secure comparative results would probably never be duplicated in practice. The comparison reached would be largely academic.

"5. It is the psychological effect of certain characters of noise and their persistence and timing, rather than volume, which is of importance. Devices for measuring and registering volume are available and to an extent in use in industry. They are not applicable to this problem. The Bell Telephone Laboratories have probably given the subject the most extended consideration. We believe they will state that solution has not been reached.

"6. There is no particular comment except the difficulty of fixing standards for comparison. Any good cabinet should pass any reasonable test.

"7. Underwriters' Laboratories are now doing this work."

First Subscriber Warmly Praises Electric Refrigeration News

Reads Every Copy From the First to the Last Line

H. K. Patterson, sales manager of Kelvinator-Canada, Ltd., London, Canada, has the honor of being the first subscriber to **ELECTRIC REFRIGERATION NEWS**. When the first issue was sprung as a surprise at the Waldenwoods meeting last September, Mr. Patterson took one look and promptly handed over a dollar bill. That Mr. Patterson is satisfied with his bargain, is indicated by a letter dated April 8, as follows:

"I had to smile when I read 'Dear Subscriber Number One,' for that reminded me of the fact that I really was the first subscriber to **ELECTRIC REFRIGERATION NEWS**, and that brings back fond memories of three of the most interesting days I ever spent in my life, which were spent at Waldenwoods, last fall, when the meeting of the Electric Refrigeration Division of the Society for Electrical Development was held there.

"Electric refrigeration is the most fascinating business that there is in the world today, and I enjoy it more than I can possibly say, and no matter how hard one studies, there is always something new to learn, and that, of course, makes it all the more fascinating.

"I honestly believe that the electric refrigeration industry will very quickly take first place among the industries—not only on account of the potential market, but on account of it attracting to itself men who want to know and I feel there is plenty of room at the top for men who will study and work hard. The industry as a whole is so intensely interesting that the more you study and learn the more you crave for further knowledge.

"I want to say that the Canadian business is coming along fine and Canadians as a whole are taking to electric refrigeration like ducks to water. Our business is growing every day and we now have distributors and dealers in every principal city and town in Canada reaching from Vancouver to Halifax.

"I am delighted to be able to advise you that our factory of Kelvinator of Canada, Limited, here in London is a beehive of industry and we are manufacturing the

Kelvinator household as well as the Kelvinator commercial units right here in London, and are also manufacturing Nizer ice cream cabinets here, all for distribution in Canada and the British Empire. Our business is developing so rapidly that it looks to me as though we will soon have to double the size of our plant.

"I want to congratulate you upon the appearance of **ELECTRIC REFRIGERATION NEWS**. It is the newest little paper I ever read, and I look forward with interest to receiving every copy. I read every copy from the first to the last line, and I believe that every man in the electric refrigeration industry should subscribe for your paper, as they will find every article of interest to them. You have my hearty congratulations on the rapid growth of the **ELECTRIC REFRIGERATION NEWS**.

Wisconsin Dealer Establishes Branch Stores

The F. E. Pazdera Sales Co., Kewau-nee, Wis., has established a branch store at Luxembourg, Wis., for the sale of Frigidaire equipment, and a similar branch will be opened in Algoma, Wis., as soon as suitable quarters can be secured. An extensive sales campaign is under way.

New Dealer at Plymouth, Wisconsin

Deicheer & Nehrling has been appointed Frigidaire dealers at Plymouth, Wis., and will begin an active sales campaign this month.

DEALER URGES BETTER INSPECTION AT FACTORY

Tag Should Show Who Tested and Approved Each Machine

An electric refrigeration dealer located in a small town in Minnesota, writes as follows:

"It was with much interest that I read the article written by James H. Frazier and published in your February 2 issue, headed 'Cure Ills at Factory, Not in the Kitchen.' It is mighty discouraging to set up a plant and find the expansion valve with the needle too short, so that it cannot function properly; also to find you have a leaky compressor, or some other part defective. The writer recently sold a machine which should never have left the factory, and is still having trouble with it. The best part of it is that the manufacturers expect you to stand the expense of rebuilding it. The average dealer in the small towns cannot have the experience that they have in the larger cities, and every machine leaving the factory should be thoroughly inspected and tested and bear a tag showing whose inspection it came under. Then if there are any troubles the factory would know where to put the blame. As Mr. Frazier says, the customer expects, when the machine is installed, that it will start making ice and continue. This curing ills in the kitchen gives the plant a black eye and takes time to overcome. 'Sound production methods will reduce service liabilities.' Let us have more thorough inspection and less service calls, for the good of the electric refrigeration industry."

Madison Dealer Moves to Larger Store

The Electrical Refrigeration Co., Madison, Wis., has moved from 401 State St. to 405 State St., in order to give them increased facilities.

The Universal Cooler fills a universal need!

An All Around Attractive Dealer Proposition

OUR staff of capable field supervisors is maintained to assist in establishing distributors and dealers in the electric refrigerator business. THE Universal Cooler has been in actual use for five years, giving utmost satisfaction with a minimum of service requirements. We are offering some excellent territory, carrying with it a profitable selling franchise. WRITE at once for details.



UNIVERSAL COOLER CORPORATION
Eighteenth and Howard Detroit, Michigan

THERMOSTATS Automatic Controls for Refrigeration and Oil Burners
SHAFT SEALS—FLOATS LIGHT STAMPINGS
HIGH PRESSURE CUT-OUTS
GOODNOW & BLAKE MFG. CO. 3840 BEAVER STREET DETROIT, MICH.

First International Refrigeration Exposition To Be Held at Rome, Italy, in September

The First International Exposition of Refrigeration at which many nations will be represented is to be held at Rome, Italy, this coming September, under the auspices of the Italian Government, which has appointed the Central Italian Organization Committee to make all the arrangements. The committee is as follows:

President of Honor: Ex-Minister Andree Lebon.

General Secretary of Honor: Engineer Albert Barrier.

President: Hon. Ferdinando Negrini.

Vice-President: Rag. Enrico Ferrero.

Vice-President: Ing. Gaetano Barriari.

Treasurer: Ing. Casimiro Corbetta.

Reviser of Accounts: Ernesto Ferrero.

Clito Montagna, Giulio Gerardo, Domenico Bonaldi.

The exposition will be located in the Palace of Fine Arts on the Via Nazionale. American firms desiring to exhibit their products can obtain full information by writing to the Treasurer-Secretary, Ing. Cav. Vitoria Maraghini, Milan (112), via Principe Umberto 10. Exhibits are to be installed between September 1 and 15, and removed between September 26 and 30.

Certain prizes are offered by the Ministero dell'Economia Nazionale, by the Chamber of Commerce, and other. Special juries of award will assign the prizes.

More than forty nations will send official delegates to represent them at the Fifth International Congress of Refrigeration at Rome in September. The United States will not be officially represented, but the Secretary of States has designated the American Association of Ice and Refrigeration as the proper body to represent it at the Congress, and several Americans selected by the executive committee of this association will go to Rome to present papers on various phases of the refrigeration industry in this country.

The proceedings of this Congress, which is made of eminent scientists, engineers, chemists and laymen who are authorities on refrigeration, are to be preserved in bound form and distributed to the principal libraries of the world as reference works.

The scope of this Congress is so large that it has been divided into four sections, and there will be four meetings of each section, or 32 in all, taking up one week of the allotted time of the Congress. An elaborate daily program is planned.

QUALITY TRIM DENOTES QUALITY THROUGHOUT

Jewett Refrigerator with Monel Metal trim and facing. Manufactured by The JEWETT REFRIGERATOR CO., of Buffalo, N. Y.

JEWETT knows that a Monel Metal facing will be permanently attractive

LEADING refrigerator manufacturers are using Monel Metal trim and facing because experience has proved that Monel Metal—new or old—always looks attractive. Here are additional reasons for adopting Monel Metal trim:

1. It has a permanently bright, attractive surface—it dresses up the refrigerator.
2. Its corrosion-resistance makes it easy to clean and keep clean.
3. It is inherently rugged—hard to dent or scratch.
4. It has no coating to wear off.
5. Its permanent ornamental value helps sell the refrigerator.
6. Last, but not least: It is available in ample quantities in desired dimensions, shapes and forms.

IMPORTANT: Refrigerator buyers are quick to recognize a quality refrigerator by its Monel Metal trim.

Monel Metal is a technically controlled Nickel-Copper alloy of high nickel content. It is mined, smelted, refined, rolled and marketed solely by The International Nickel Company. The name "Monel Metal" is a registered trade mark.

Monel metal

THE INTERNATIONAL NICKEL COMPANY (INC.), 67 WALL STREET, NEW YORK CITY

Crystal Apartment Refrigerators

for Remote Installations

Are going into apartment homes all over the country

Multiple hook-ups require an efficient steel refrigerator like the Crystal. Don't experiment with unknown makes. We have been making steel refrigerators exclusively since 1910.

Size illustrated is 50 1/4 in. high, 26 1/4 in. wide, 21 1/2 in. deep. Cork insulated—white or gray lacquer finish—polished aluminum trim—gaskets on doors. Can be furnished without lower compartment.

No. 650

Write for Catalog and Prices

CRYSTAL REFRIGERATOR CO. FREMONT NEBR.

"YUMA IS HOT!"

Electric Refrigeration Popular in Desert Country

By Roy George

When the sales school is out for recess, the Frigidaire headquarters is the most interesting spot in Phoenix. J. A. Hobson conducts the school at intervals for the training of salesmen, and in the meantime is working up a business such as the desert climate naturally justifies.

"This whole Arizona territory is good, but the southern section is particularly responsive," he says. "With the electrification of the Salt River Valley and the great influx of population, has come the natural demand for comforts that the pioneers would little have dreamed possible. And we are just beginning."

This season the company will have out the biggest sales force in their history, and the local distributor is preparing to take care of a quadrupled business.

Merchandising a Principle

"We are, perhaps, selling an idea, we are certainly distributing a commodity, and if we are not preaching a gospel we are at least merchandising a principle," says Mr. Hobson.

The main basis of all the sales campaigns conducted from this office has been the conservation of food and the safeguarding of the public health. "If we could get men to put their energies into the preaching of this truth on salary, as well as we can get them to selling refrigerating units for a commission, we would have the whole country under electric refrigeration before the end of the coming season," he says.

"Of course, it's a fact," he admits, "that when a man sells a Frigidaire and installs it in the home, he spreads the doctrine by example, but the modern mind is too easily brought to accept revolutionary things without understanding their significance or giving them credit for their real worth."

"The public still has to have one idea overcome in its mind, and that is that electric refrigeration is a luxury. If once we can sell the big idea of what electric refrigeration means to the family larder and the family health in dollars and cents, we have finished our work."

Actual Results

The field about Phoenix and extending as far south as Yuma is of particular interest because of the peculiar problems it offers in bucking against nature. Of course, it is the very country that finds the greatest demand for relief such as refrigeration can give, but sometimes people are unreasonable in their demands and fail to take into account the peculiar conditions arising from certain locations.

But no one ever overlooked the element of sheer heat in discussing Yuma. When speaking of Phoenix, usually, it is thought of as a delightful winter climate; but Yuma—well, it is just two doors removed from war, if what Sherman said was true. And where all the people agree, the people are right.

"Yuma is hot!"

Mr. Hobson admits it. "But," he adds "the town of Yuma, Arizona, leads in our records of temperature reductions per kilowatt." That record means that a Yuma resident gets high service per dollar expended. Of course, he is entitled to get greater relief. That means that electric refrigeration service costs least where it means most.

FRIGIDAIRE GOES AFTER ALASKAN BUSINESS

Other Sales Outlets Established in Northwest Territory

Whoever carried coals to Newcastle has nothing on the Frigidaire Corporation, which has recently established dealer outlets in Alaska. Among those now showing electric refrigerators are the North Commercial Company at Fairbanks, R. L. H. Marshall at McCarthy, Gastineau Electric Company at Juneau, and the Citizens Water, Light & Power Company at Ketchikan, Alaska.

At Seattle, in addition the sales branch at 1612 Second Avenue, Frigidaire equipment is now displayed at the Folger Electric Company, Inc., 901 Western Ave., and McGowan Brothers, 1907 Third Ave. Other dealers maintaining display rooms in various parts of Washington include the following: W. S. Swank & Co., Camas; Sparks Hardware Company, 607 Main St., Vancouver; Rich-McHugh, Okanogan; H. L. Reed, Port Townsend; Pegram & Beam, Port Angeles; Andy Orovetz, Valley Battery Co., Puyallup; L. S. Morris, Auburn; L. J. Meserve, Cathlamet; Ludwick-West Co., Sedro-Wooley; D. E. Jenkins, Centralia; Hansen-Welfare, Winslow; Foster-Isaacson Co., Raymond; Robert Chalmers, Gladshore Floral Co., Bremerton; Ellensburg Hardware Co., Ellensburg; Electric Supply Company, Wenatchee; Electric Fixture & Appliance Company, Longview; Electric Appliance Company, Bellingham; Carlson & Swinney, Yakima; Walter H. Barthels, Everett; E. T. Baker & Son, Chehalis; Baker Feed & Fuel Co., Olympia; Anacortes Ice Co., Anacortes.

ELECTRIC REFRIGERATION GROWTH RIVALS AUTO AND RADIO INDUSTRIES

Only 600 Sold Up to 1914—One Thousand Times As Many Will Be Sold This Year

With 600,000 electrical refrigerators being manufactured this year, as compared with 200,000 last year, the electrical refrigerator industry is showing a phenomenal growth, which rivals the growth of the radio and automobile industries, according to an announcement made by Arthur Williams, vice-president commercial relations of the New York Edison Company, at the annual Electrical Refrigeration Show recently held in the company's building at Irving Place and Fifteenth Street, New York.

The estimate for 1927 is based on the sales during the past three months. Reports of the manufacturers, Mr. Williams said, indicate that the electrical refrigerator is finding favor not only in the cities and towns, but in such out of the way places as the deserts of the southwest and in remote mountain regions. Wherever electrical power is available, it is being installed rapidly.

A comparatively short time ago, in 1914, Mr. Williams pointed out, only 600 electrical refrigerators were sold in this country. For several years their sales mounted slowly. In 1924 the sales had mounted to 24,000, in 1925 to 75,000, and to 200,000 in 1926. These do not include the larger refrigerators sold for hotels and other commercial purposes.

There are thirteen exhibitors at this year's electrical refrigeration show, presenting fifty types of refrigerators. The show proved so popular, and attracted so many visitors, that it was continued for another week, to April 9.

FEBRUARY EXPORTS OF ELECTRIC REFRIGERATORS

Countries	Refrigeration Sets Up to 1 Ton Capacity	
	Number	Dollars
Azores and Madeira Is..	1	225
Belgium	4	545
Denmark and Faroe Is..	16	1,763
France	24	5,676
Germany	15	3,099
Greece	14	1,345
Italy	82	11,448
Netherlands	4	519
Norway	2	390
Spain	36	6,486
Sweden	48	4,746
United Kingdom	111	19,053
Canada	25	1,637
Costa Rica	2	760
Guatemala	12	2,094
Panama	11	2,796
Salvador	1	270
Mexico	21	2,165
Bermuda	9	1,859
Barbados	1	355
Other Brit. West In....	4	1,181
Cuba	18	2,950
Dominican Republic	1	521
Haitian Republic	1	172
Argentina	1	78
Brazil	138	18,175
Chile	8	1,338
Colombia	4	603
Uruguay	3	492
Venezuela	17	3,521
British India	72	5,919
China	5	630
Hongkong	13	1,093
Japan, inc. Chosen.....	5	875
Philippine Islands	77	12,407
Australia	173	34,406
New Zealand	2	1,079
British South Africa....	28	7,936
Egypt	11	908
Total	1,025	161,515

NEW SEATTLE DEALERS

Notes from University of Washington District

The University Radio Company has been appointed to represent Kelvinator in the district around the University of Washington, at Seattle. A complete line of the refrigerators has been installed in a spacious show room.

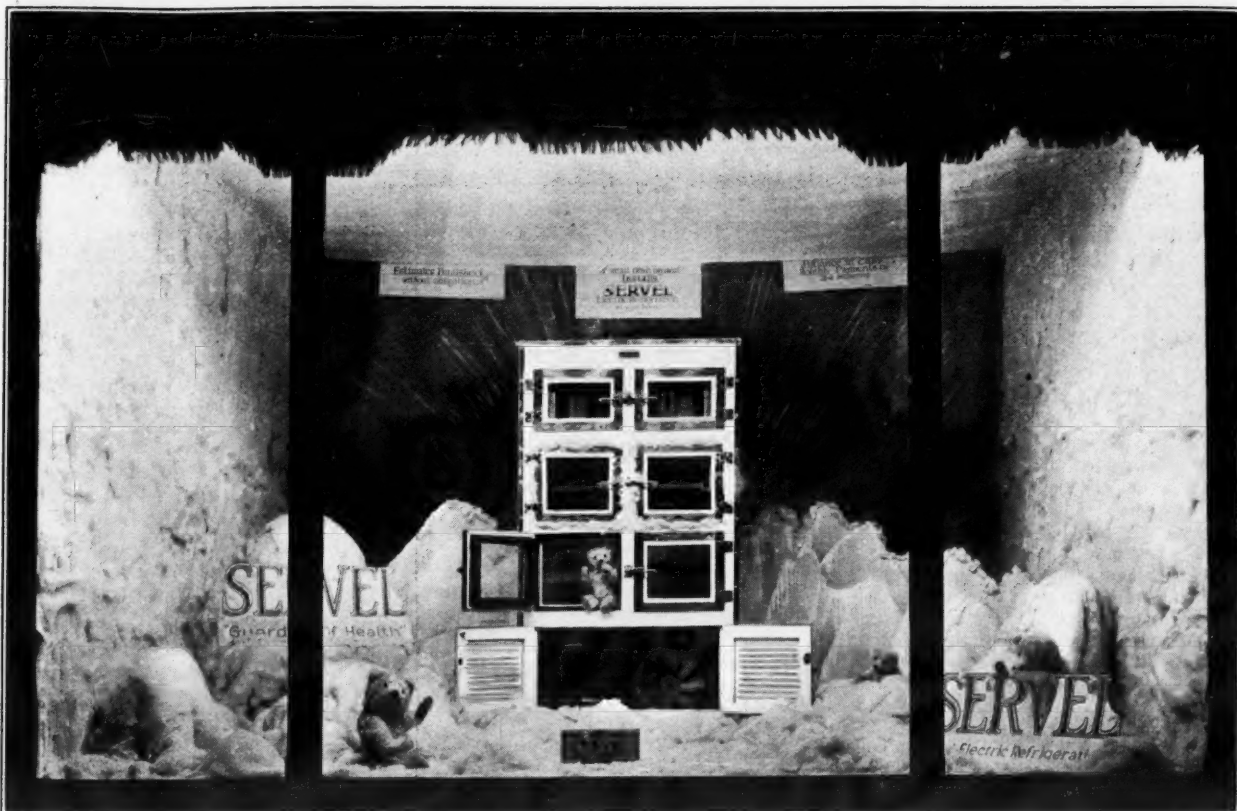
Copeland Products has just named the Dave Logg Company, of the University district, as distributors for this section of the city. The Logg company is also handling Dual Automatic Oil Burners. Show rooms have been established in the new Buick Building. The company participated in the recent Buick exposition, which brought crowds of visitors to see the array of refrigerators displayed.

Among the latest installations of electric refrigeration in the University district are those placed by the Kelvinator company in the Wayfarer apartments.

Apple Growers Buying Refrigeration

More refrigeration for the apple growers of North Central Washington is being planned. Cold storage for thousands of cars is under consideration. Among those planning larger refrigeration facilities in the apple region near Wenatchee, Wash., are C. W. Wilmeroth, the Sunny Slope Fruit Exchange, the Fruit Growers Service Company, and the Wenatchee District Co-operative Association.

Elaborate Polar Setting Used by Albany, New York, Central Station



Regardless of theories and arguments that the electric refrigerator should be surrounded with decorations denoting a warm atmosphere, such as have been published in previous issues of ELECTRIC REFRIGERATION NEWS, the frigid decoration continues to be popular and, it is claimed, effective.

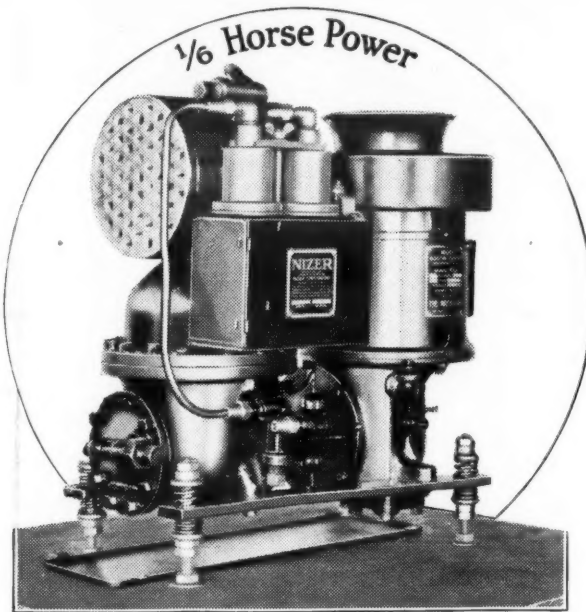
Above is shown a recent window display of the Municipal Gas Company

which operates the electric light and power service in Albany, N. Y., and sells the Servel machine.

The floors and side walls were covered with cotton batting. Boxes were placed on the floor and covered over to represent floating icebergs. The ceiling was covered with glazed paper. The background consisted of a canvas painted in colors to represent the Aurora Borealis. The elec-

tric refrigerator was placed about two feet from the background and the motor was kept in continuous operation. The icebergs extended from each side of the refrigerator to the side walls and were painted on beaver board.

Colored lights were directed upon the background, while two large polar bears and two cubs added life to the scene.



Model E Compressor

Model "E" Compressor operates by a small 1/6 h. p. motor from either A. C. or D. C. The cabinets are 2-, 3- or 4-hole and there are the 2- and 4-hole combination cabinets with a generous compartment for bulk milk or bottled goods, or both. Easy to install and easy to service. Just plug into a light socket, with no special wiring!

A Business Builder for You

Opening new fields—
adding more stops—
increasing profits

Now—again—Nizer's intimate study of your business leads to the anticipation of your needs with the Nizer "Combination Ice Cream and Bottled Goods Cabinet."

Just the cabinet to gain the good-will of every one of your smaller stops. And it opens the way to adding many more summer customers—restaurants, chain stores, delicatessens, wayside stands—when the public demand becomes greatest.

Think of the possibilities of new

business which the combination cabinet will create by enabling dealers to carry ice cream profitably along with milk and other bottled goods at exactly the right temperature.

Pioneer of the Electric Ice Cream Cabinet and pioneer again in extending the range of service to meet every retailer's requirements and serve a better and more sanitary product to the consumer.

The same high standard that identifies all Nizer machines—durable, economical, profitable, quiet and compact. Another striking example of the Nizer creed that there shall be no compromise with efficiency. And the investment is surprisingly small.

Call the nearest Nizer Branch for complete formation.

NIZER

REG. U. S. PATENT OFFICE

THE PIONEER ELECTRIC ICE CREAM CABINET

Sold only to or through ice cream manufacturers by Nizer, Division of Electric Refrigeration Corporation, and in Canada by Kelvinator of Canada, Ltd., London, Ontario

Plymouth Road, Detroit
816 Sharples Bldg., Chicago
431 Spring St., Atlanta, Ga.
620 S. Delaware Ave., Philadelphia

Nizer Sales and Service

1 West Forty-seventh St., New York
4003 Wentworth Ave., Minneapolis, Minn.
1911 Washington Ave., St. Louis
701 Pacific Bldg., San Francisco
910 Pacific National Bank Bldg., Los Angeles, Cal.

171 Sidney St., Cambridge, Mass.
1916 Gorman Ave., Waco, Texas
164-166 Manassas St., Memphis, Tenn.
208 Third Avenue, South, Seattle, Wash.

1413 Milwaukee Families Planning to Buy This Year, Survey Shows

Sales in 1926 Doubled Previous Number of Users—
Will Double Again in 1927

The use of electric refrigeration among Milwaukee families showed an increase of 100 per cent during the year 1926, and indications are that another 100 per cent increase will be made in the business done here by the end of 1927. The research bureau of the *Milwaukee Journal* has compiled these figures from the results of a survey covering the entire county.

In summarizing the survey the bureau report says the subject of electric refrigeration was covered first in January, 1926, at which time it was found that 27 per cent of the total families in the county owned such an appliance, representing 381 families.

The latest survey based on results obtained up to January 15, 1927, shows that 49 per cent of the families in the same area, or 695 families, owned one, an increase of about 100 per cent. In commenting on this increase it is pointed out that active heavy merchandising of these machines did not begin until the fall of 1926, so that the first figures do not represent the full effect of the effort by distributors to bring this device to the public.

That the present year will see another 100 per cent increase in the use of electric refrigeration is judged from the affirmative answers which the bureau received during its recent survey to the question: "Do you intend to purchase an electric refrigerator in 1927?"

Members of 1,413 Milwaukee families, in answering this question, said they did, indicating the use will increase even more than 100 per cent if they all buy. Statements by merchants who have had a chance to observe the demand during the first two months of the year are to the effect that this total will more than be reached.

Largest Percentage in Apartments

Residents of apartment houses where electric refrigeration is installed by the builder, represents the largest proportion of the families who now have this device and the present program for building apartment houses in the city will play an important part in increasing the business. The percentage of the total families living in apartments who had the use of electric refrigerators was 2.84. The smallest percentage of use, the bureau reported, was among families living in duplex flats. Of the families living in single dwellings, 51 per cent owned an electric refrigerator.

Disagrees With Arthur Brisbane

Comments on Suggestion That Henry Ford Make Electric Refrigeration

A syndicated newspaper article by Arthur Brisbane which called on Henry Ford to apply his genius and mass production methods to the production of a cheap electric refrigerator within the reach of all, was reprinted in previous issue of *ELECTRIC REFRIGERATION NEWS*. G. M. Johnson, of the Northey Mfg. Co., Waterloo, Iowa, took exception to Mr. Brisbane's proposal and addressed him as follows:

"Ford makes tens of millions by following original ideas. He values precedent for intrinsic worth only. He runs counter to standard practice when that practice, upon analysis, seems based upon false values. His analysis and its proof in dollars rob critics of plausibility. They admire his dollars, but how many have rushed to appropriate fully his method? Is this strange failure to appropriate a tacit confession of incapacity? You and I, unconsciously, perhaps, think so, hence the appeal to Ford. Is this snap judgment? In this case, yes."

"Potential demand always existed for transportation, rapid, comfortable, cheap. Then came the vehicle. One ride convinced. Each individual became a prospective buyer. These buyers dwell in hotels, rented rooms, rented houses, tents; even in the car itself, as well as in homes of their own. Often a family has more cars than individuals. When tires show wear and paint becomes dull, comes the desire for a new car—a trade ensues—possession of the old is often vested henceforth in some one who would never, perhaps, have bought a new one. A desire for such ownership is universal—it is recurrent—it is limited to one car, or two, or more, only as the purse grows thin."

"In terms of money, there exists no parallel to the automotive industry. Wide-spread market permits the Ford price. Lower price brings more orders and still lower price. Is this applicable to household refrigerating plants? It is, to a very limited extent."

"When 'the most highly paid editorial writer in the world' suggests otherwise, the effect on our industry might not be helpful. We all incline to the belief that any new manufactured product is priced much too high; an idea based upon knowledge of the cupidity of man, apparent parallel instances and lack of exact information."

"A generation ago the writer visualized the present; electric refrigeration under consideration in every dwelling of pretension. But others, unknown to me, saw it too—that is, they saw a vast unexploited field for sales and profit, how vast and how profitable will be referred to presently. What we failed to see, or at any rate to invest with due importance, were the mechanical difficulties and the expense of solving them, before the idea could be adapted to serve in places where skilled attendance would be too costly."

"Refrigerating engineers who were asked to risk their effort and money did see these obstacles and were not slow in pointing them out. To most of them these problems outweighed the possible future profits—a future that they derided with scorn. Fantastic dream is a suitable term to use in a summary of what these wise men had to say some twenty years ago. Even as late as two or three years ago some of them held the same opinion."

"Your readers should be told that it has taken, roughly, twenty years, and probably far in excess of one hundred million dollars, to make possible what is offered today. There are a score or more of con-

cerns still in the business, but this is only a small fraction of the number who have lost their capital and quit. Many of them, too, were extremely well financed and employed the best talent. But this preliminary expense has been charged off and is not reflected in the price you are asked to pay—competition takes care of that. The effort today tends too much toward premature lowering of price—too little toward dependability and long life."

"Dependability, long life, capacity; give a user all that for, say, four to five hundred dollars, and you give him something cheaper over a ten-year period than Mr. Ford could at one hundred. Seldom is there a desire to exchange solely for the sake of appearance, as is the case with an automobile. An ice machine is, or ought to be, located in the basement, and few care a hang how it looks if it does the work."

"The field is vast, but not to be compared with that which permits the Ford price. The one machine remains in the service of its first purchaser until junked; the others do not. Let us not waste Mr. Ford's time—and money."

2500 AT FRIGIDAIRE ANNUAL CONVENTION

(Continued from page 1, column 5)

the amount of orders, it was stated by Mr. Biechler that this March 38,556 Frigidaires were sold as against 17,864 in March of 1926 and 1,800 in March of 1924.

Sales for the first quarter of the year exceeded 64,000 Frigidaires, as against 34,000 in the first quarter of 1926, and were three times the total of 1924. Whereas in 1926 the corporation handled from 50 to 60 per cent of the total refrigerator business, this year it expects to handle about 80 per cent of the total, thus making more machines than all other makes combined.

The more than 2,500 members of the Frigidaire Corporation and Delco-Light sales organizations left the Union Station at Dayton Thursday morning by special train to get their first view of the mammoth new Frigidaire cabinet factory at Moraine City.

The trip through the factory was designed to show the progress of material from the raw state to the finished product ready to be loaded into freight cars for shipment to all parts of the United States and to foreign countries.

The banquet and after-dinner speaking were the closing features of the two-day convention and were presided over by E. G. Biechler, president and general manager of the Delco-Light Company and Frigidaire Corporation.

Kettering "Closes" Convention

C. F. Kettering, the last speaker, though billed to "close" the convention, said it never could be closed, as its work will go on and on. Frigidaire, he said, stands in the same position as the squawky phonograph stood to the reproducing machines of today. We do not know its limitations.

"Let's let it develop to what it will. Let the service it renders be its own development," he said.

"Prosperity comes from keeping everybody reasonably dissatisfied with what he has," he said, detailing how one factor hinged on another in the cycle. "If you don't have dissatisfaction, you have her sister, depression and cut throat competition," he said. "The greatest impulse to progress is to want something you haven't got," he stated, saying in closing that the undone things are the ideals of this world.

Other speakers were E. A. Lowden, Canada branch manager; H. B. Gay, vice-president and general manager of the Excide Battery Company; Harry Arnold, of the Baltimore agency, who spoke for the field forces; F. W. Shibley, vice-president of the Bankers Trust Company, New York; "Dusty" Miller, Wilmington newspaperman and humorist, and former Governor James M. Cox, who lauded the personal characteristics of Mr. Kettering.

One of the features of the closing session Thursday afternoon was the presentation of two Navajo Indian blankets to Mr. Biechler and H. W. Prior, sales manager, by the Denver sales organization. The blankets bore the word Frigidaire woven in them.

Most of the salesmen remained in Dalton over Thursday night and left during the morning hours Friday for their homes.

Linscott Supply Co. To Distribute Universal Cooler in New England States

The Linscott Supply Company, 574 Commonwealth Ave., Boston, Mass., has been appointed distributor for Universal Cooler electric refrigeration for the states of Massachusetts, New Hampshire and Vermont. L. H. Holman, formerly sales manager of Kelvinator, Boston, Inc., has been appointed manager of the refrigeration department of the Linscott Supply Company. A. S. Hunt is president and general manager of the Linscott organization.

Electric Refrigerators Installed on Delivery Trucks

The Whatcom County Dairy Association of Bellingham, Wash., has installed electric refrigeration equipment on its delivery trucks. The Purity Ice Cream Company of Seattle is another concern which has

adopted this improved system for ice cream delivery.

Woolley to Sell Electro-Kold

M. L. Woolley, radio dealer at 4511 University Way, Seattle, Wash., has been appointed to represent the Electro-Kold Corp.

DIVISION SALESMEN

We want several wholesale men for Eastern and Southern territory. These men must have had several years' experience in sales organization work in the refrigeration field. Established acquaintance in the territories will be a big factor in choosing these men who will be in line to become district sales managers.

We are not looking for agents, retail salesmen or inexperienced men.

REFRIGERATION DIVISION

EXCELSIOR MOTOR MFG. & SUPPLY COMPANY

3701 Cortland Street

Chicago, Illinois

A year's subscription to **REFRIGERATING ENGINEERING** priced at five dollars and **THE PROPERTIES OF REFRIGERANTS AND BRINES**

a seventy page book of authoritative tables priced at three dollars, are offered together to new subscribers only, and for a short time, at \$6.00

Send your order to-day to

The A. S. R. E., 37 West 39th St., New York, N. Y.

E. T. L. Service for Domestic and Commercial Electric Refrigeration

Testing and experimental laboratory service for manufacturer, distributor, central station

Test data exclusive property of client

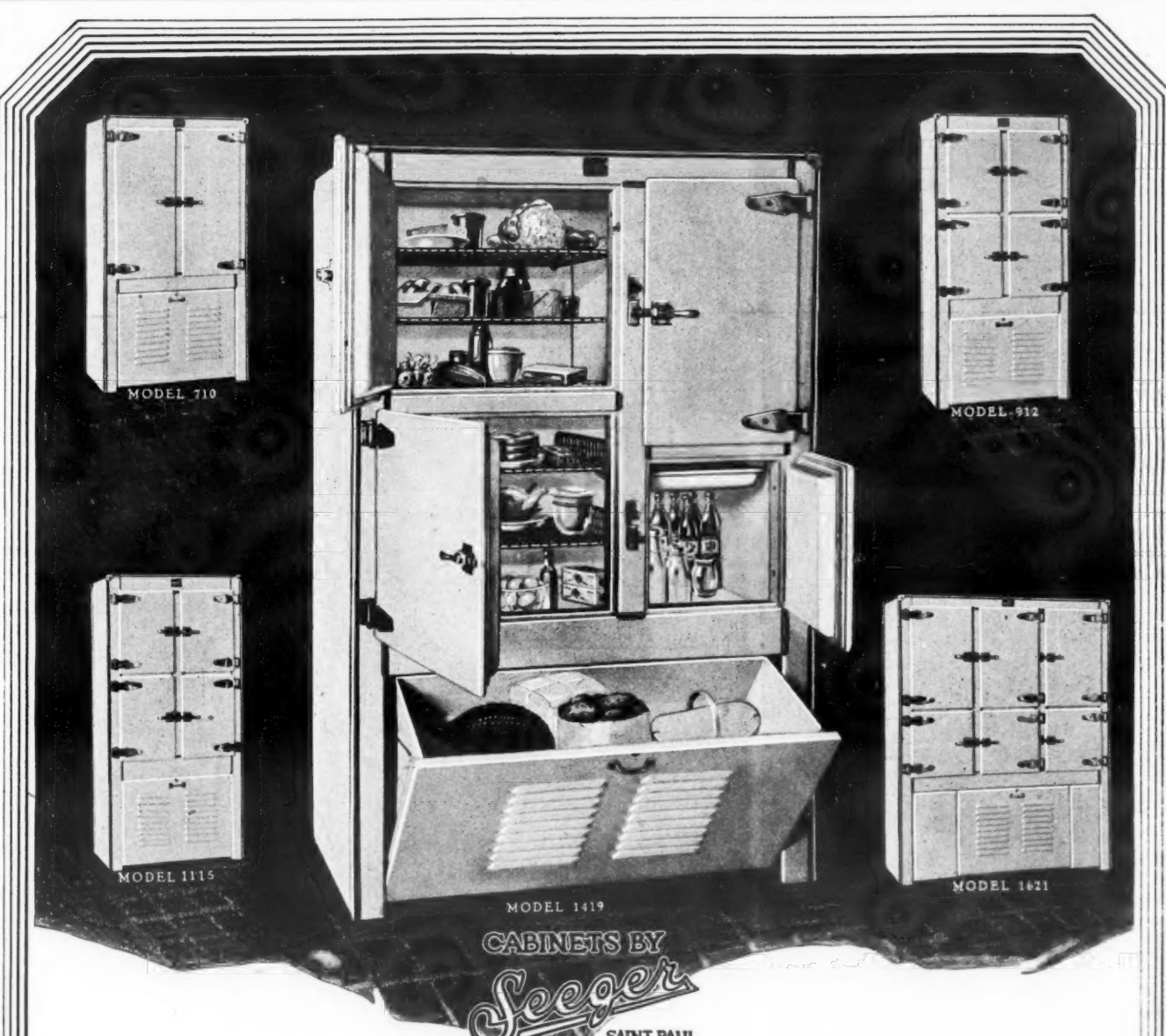
ELECTRICAL TESTING LABORATORIES

80th Street and East End Avenue, NEW YORK CITY, N. Y.



Electric Refrigeration

WINTERS & CRAMPTON MFG. CO.
GRAND RAPIDS, MICH.



The New All Porcelain Cabinets by Seeger for Electrical Refrigeration now have the improvements that in the future will be essentials.

Exterior and interior of beautiful white porcelain, sturdily built to last years, and adequately insulated with pure Corkboard. Cabinets by Seeger will give super service for generations.

The unique features are:

- Porcelain Vegetable Storage Compartment
- Porcelain Defrosting Pan—No Drain
- Removable Porcelain Baffle Wall

The Representatives of Electrical Refrigeration will be pleased to show and demonstrate the New All Porcelain Cabinets by Seeger in sizes to meet your requirements.

Cabinets by Seeger for use with ice and also for commercial purposes will continue to be shown by usual representatives.

SEEGER REFRIGERATOR COMPANY

SAINT PAUL — NEW YORK — BOSTON — CHICAGO — LOS ANGELES — ATLANTA

STANDARD OF THE AMERICAN HOME

SATURDAY EVENING POST, Full Page, May 7th, 1927. Cabinets by Seeger are built for any Standard Electric Refrigeration Unit. A complete line for Home, Hotel, Club and Restaurant.

WHY I LIKE THE ELECTRIC REFRIGERATOR

One of a Series of Interviews the Society for Electrical Development Has Had With People Who Speak from Their Own Experience.

It Enables One to Make Hot Bread On a Minute's Notice

By Shirley Eleanor Dane

Should one walk into a house and be greeted by the delicious smell of bread baking—all thoughts of electric refrigerators would quickly fly out of one's mind unless the first question asked led to this most interesting interview:

"You see," said Mrs. S., who lives in a comfortable home on Long Island, "I'm one of the lucky housekeepers rejoicing in a cook who can, and will with a smile, make bread once a week. Both the digestions and the figures of my family permit the joys of often having hot raised biscuits for breakfast, but it wasn't very easy to manage this and to keep the cook's disposition cheerful until we acquired our electric refrigerator along with dozens of other conveniences and time savers. The 'our' is not a figure of speech, by the way, since each and every member of my household has found his or her own particular need of the refrigerator."

This seemed almost too good to be true, so an explanation was necessary.

HOW TO DO IT

"Set your bread in the ordinary way," said she, "and when the time comes to make it into loaves, cut off some of the dough and putting it in a bowl that has been generously greased, roll the dough around in the bowl to cover the outside with the fat. This will prevent a crust from forming on the dough. Then we cover it with waxed paper to be on the safe side and place it in the refrigerator."

"We make up the rolls two hours ahead of the baking time and leave in a warm room temperature, putting the unused part back to keep until we want hot biscuits again. If it gets light, we knead it down—or sometimes to hurry things along, we make up a pan of cinnamon rolls, for instance, when the big loaves are made—grease them on top, pop them into the refrigerator, where they will raise a little over night, and won't need to stand in a warm place so long."

"Now don't try this in an ordinary refrigerator, because the temperature there is bound to vary and the dough may sour."

ICE BOX ROLLS

Another woman who uses an electric gave me a recipe guaranteed by a famous flour company for "ice box rolls":

- 2-3 cup sugar
- 1 teaspoon salt
- 2 tablespoons shortening (rounded)
- 2½ cups luke warm water
- 2 eggs
- 2 cakes compressed yeast
- 8 to 10 cups flour

Crumble yeast into a bowl, add water, sugar, salt and eggs. Beat thoroughly with egg beater. This beating will dissolve and mix the yeast. Add flour, mix, add shortening and mix very thoroughly. Then treat the dough as previously directed in this story.

General Electric Business Totals Over 77 Million in First Quarter of 1927

Orders received by the General Electric Co., Schenectady, N. Y., for the three months ending March 31, 1927, totaled \$77,550,581, according to an announcement by Gerard Swope, president. Net sales billed amount to \$72,474,474. Profits available for dividends amount to over eleven million, which is equivalent to \$1.53 per share on the outstanding common stock.

NEW BOOKLETS AND LEAFLETS

Universal Cooler

The Universal Cooler Corp., 18th and Howard Streets, Detroit, Mich., has issued a small broadside, "Electric Refrigeration in Universal Language," illustrating the different Universal Cooler models.

Winters & Crampton Mfg. Co.

The Winters & Crampton Mfg. Co., Grand Rapids, Mich., have issued a (9 x 11) 21-page loose leaf catalogue entitled "Distinctive Refrigerator Hardware," illustrating and describing the refrigerator locks and hinges manufactured by this company. The catalogue is profusely illustrated.

Polaris

Polaris Electric Refrigerator Co., Logansport, Ind., has issued a large broadside entitled "Follow the Crowd," featuring the new \$195 "Gem" unit.

Illinois

The Illinois Refrigerator Co., Morrison, Ill., is offering an unusual portfolio containing plates of the various models of automatic cabinets, together with specifications and prices.

Success

"Success All-Steel Refrigerators for Use with Electric Refrigerating Units" is the title of a 3½ x 8½ two-color folder issued by the Success Manufacturing Co., Gloucester, Mass.

M. & E.

The Merchant & Evans Co., Washington Ave. and 21st St., Philadelphia, Pa., has sent the following folders: "Every User Wants One" and "M&E Refrigerators Last." These folders contain information concerning prices, sizes and construction of the different cabinets and machines.

Zerozone

The Iron Mountain Co., Chicago, Ill., has recently sent a 3½ x 6½ folder, entitled "The Cold in the Air."

Gurney

The Gurney Refrigerator Co., Fond du Lac, Wis., sends file A-1-A 32C3, containing a two-color folder, "Modern Refrigeration," architects' specifications, catalogue 37-A and separate (8½ x 11) sheets, respectively, describing the following models: H-60, D-1, F-30, 982, 800 850, M1, N1, H1.

Penn Automatic Switches

The Penn Electric Machine Co., Des Moines, Ia., has issued a loose-leaf catalogue containing blue prints of various types of switches and other controlling devices that they supply to the electric refrigeration manufacturers.

G-M-P Murphy

G-M-P Murphy & Co., members of the New York Stock Exchange, 52 Broadway New York City, devote the April 15 issue of their "Fortnightly Review" to "The Ice Industry, How It Has Been Affected By Mechanical Refrigeration."

"It is now quite generally recognized," says the report, "that national advertising of the value of refrigeration, carried on by the manufacturers of the small mechanical refrigerators, has benefited all who supply refrigeration for household use, whether in the form of ice or of a machine. This has resulted in a rapid change from the feeling of consternation that seized many of the ice men when the drive on the household machine began."

Electromatic Cooling Company Organized

A. S. Knudson and P. J. Swanson have incorporated the Electromatic Cooling Company at Seattle. The company is capitalized at \$49,000.

HOW TO OBTAIN BACK ISSUES OF THE NEWS

Many subscribers are requesting that their subscriptions be dated back to the first issue, so that they may obtain a complete file of the paper. We regret to announce that we are unable to furnish copies of certain issues, and that it will hereafter be necessary to start all new subscriptions with the next issue of the paper appearing after the order is received. The present supply of back issues is as follows:

Copies Available at Five Cents Each:

- No. 3—October 30, 1926
- No. 4—November 20, 1926
- No. 7—January 5, 1927
- No. 8—January 19, 1927
- No. 9—February 2, 1927
- No. 10—February 16, 1927
- No. 11—March 2, 1927
- No. 13—March 30, 1927
- No. 14—April 13, 1927
- No. 15—April 27, 1927.

Very Limited Supply—Five Cents Per Copy While They Last:

- No. 5—December 8, 1926
- No. 6—December 22, 1926
- No. 12—March 16, 1926

None Available—Cannot Furnish

- No. 1—September 11, 1926
- No. 2—October 6, 1926

Note: To obtain back issues, send cash or stamps with order. If we are unable to fill your complete order, any over-payment will be returned. Address ELECTRIC REFRIGERATION NEWS, 409 East Jefferson Ave., Detroit, Mich.

Exhibit at Madison Home Show

Frigidaire and Kelvinator electric refrigerators were exhibited at the annual home show at Madison, Wis., which was held April 15 to 21.

A Wonderful Paper

"I must say your paper fills a long-felt want, and I wish you every success in your efforts at publishing such a wonderful paper."—Albert Wright, 922 Haight St., San Francisco, Calif.

A First Class Newspaper, But Not Published Often Enough

"We find your newspaper to be first class in every way, and the only objectionable feature we have noted to date is the fact that it is published only every two weeks."—E. M. Flannery, The Bush Manufacturing Co., Hartford, Conn.

Absorption Machine

An inventor, holding strong patents on an absorption type mechanical refrigerator, desires to get in touch with a well-financed organization interested in entering this field.

The refrigerator is fully developed, has been thoroughly tested in service and is ready for immediate production.

The manufacturing cost for the machine of household size, complete in every respect, is less than \$10.

Box 31,
ELECTRIC REFRIGERATION NEWS

Club Rates

Manufacturers, Distributors and Dealers are invited to enroll members of their organizations as subscribers to Electric Refrigeration News in clubs of ten or more at the special rate of 75 cents per year each (\$7.50 for ten). Papers will be sent to one address or mailed individually as desired.

Electric
Refrigeration News
409 E. Jefferson Ave.
Detroit, Mich.

CLASSIFIED COLUMN

Note: Replies to advertisements with "box numbers" should be addressed to Electric Refrigeration News, 409 E. Jefferson Avenue, Detroit, Michigan. Advertising rates for this column only: Positions wanted 40 cents per line for one insertion, \$1.00 per line for three insertions. All other classifications, 50 cents per line for one insertion, \$1.25 per line for three insertions.

POSITIONS WANTED

Graduate Engineer, three years' experience in developing electric refrigeration. Have designed satisfactory soda fountains, ice cream cabinets and special appliances. Have tested many of the well known makes of both gas and electric machines. Now head of commercial refrigeration department in large eastern public utility. Good sales and service record. Desire permanent position with good organization in middle west. Box 30.

Graduate Electrical and Mechanical Engineer, with fifteen years experience in refrigeration industry, desires to make a change. Applicant well qualified in household refrigeration with successful experience record in four phases of the industry: Designing, Selling, Installing, and Managing Service Department. Present employer advised. Address Box 29.

POSITIONS VACANT

Manufacturers of high grade electric refrigerator cabinets need refrigerating engineer with some designing and production experience to be assistant to chief engineer. Salary dependent upon experience and qualifications. Fine opportunity for right man. Address Box 27.

FOR SALE

Have developed and patented small commercial and domestic refrigerating machine, two sizes. Sixty machines sold and running satisfactorily. Machine has outstanding advantages. Ready for active exploitation. Favorable costs, prices and demand established. Suitable manufacturing connections needed with at least partial financing. Address Box 25.

"We Freeze to Pleeze," Says Kelly

Wm. Kelly & Co., Grand Island, Nebraska, who use the above headline as their slogan, write briefly and to the point as follows: "You tell 'em, we want 'This News.' Enclosed you will find check for \$1.00 to pay our subscription. Don't discard our name. Put us at the head of the list."

Quick Service

on random lengths
or fabricated coils of

COPPER TUBING

The Story of a Condenser Coil for a new
Mechanical Refrigerator—by dates

APRIL 7—Baltimore: Rough Sketch sent by mail.
APRIL 11—Detroit: Our blue print was OKed.
APRIL 16—Detroit: First shipment expressed.
APRIL 18—Baltimore: Coils received and OKed.

30 days
ahead of
his plans

WE CARRY a complete stock of Seamless Copper and Brass tubing drawn to standard sizes. And the manufacturing department is in tune with the rest of this big mill—regularly delivering fabricated tubing parts in record time. That is why, in April, we were able to put the maker of a mechanical refrigerator 30 days ahead of his schedule. Enjoy the security of this unusual service. Send blue prints. Write for prices.

WOLVERINE TUBE COMPANY
1415 Central Ave., Detroit, Michigan

Chicago, Ill.
129 S. Jefferson St.

Cleveland, Ohio
602 Hunkin-Conkey Bldg.

Rochester, N. Y.
206 Central Trust Bldg.

WOLVERINE
SEAMLESS COPPER AND BRASS TUBING

Subscription Order

BUSINESS NEWS PUBLISHING CO.
409 EAST JEFFERSON AVENUE
DETROIT, MICH.

DATE _____

Gentlemen:

Please enter my subscription to ELECTRIC REFRIGERATION NEWS, the Business Newspaper of the Electric Refrigeration Industry, starting with the issue of May 11, 1927.

United States: ☐ \$1.00 per year ☐ Three years for \$2.00.

Foreign Countries: ☐ \$1.50 per year.

I am enclosing payment in the form of

☐ Check ☐ P. O. Order ☐ Cash ☐ Stamps

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☐ NOTE: If it is inconvenient for you to enclose payment with this order, check this square and invoice will be mailed. Do it now, while you have the blank before you. It will save the time and trouble of writing a letter, and you will be sure to get the next issue.